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Do Hawai'i Producers Pay Higher Freight Costs for Agricultural Shipments to the U.S. Mainland Market Than Their Foreign Competitors?

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As a non-contiguous U.S. state, Hawai'i depends exclusively on sea and air transportation as a means of distributing agricultural products to the U.S. mainland market. A 2003 case study by the United States Department of Agriculture (USDA) on the geographical disadvantages of Hawai'i's farmers and ranchers reports several deficiencies of Hawai'i port infrastructure,(1) including inadequate space at seaports for both passenger and freight traffic, lack of shaded or refrigerated staging areas, and insufficient length of Neighbor Island runways. In addition, the study suggests that Hawai'i's high labor costs and small cargo scale tend to unfavorably affect its freight costs.

The USDA study also finds that lack of easily accessible information on freight costs has caused "constant confusion and frustration of Hawaii agricultural shippers" over the hypothesis that they "always pay more to ship their cargo to the mainland than competitors in foreign countries." While Hawai'i shippers cited specific examples of transportation subsidies and the use of foreign-flag vessels by foreign shippers making Hawai'i shipping uncompetitive, anecdotal evidence on freight rates showed otherwise. An example given in the USDA report is that Hawai'i shippers who believed that they had a transportation disadvantage compared to Costa Rica were "surprised to learn that shipments from countries such as Costa Rica can cost twice as much per ocean container of pineapples to the mainland than shipments from Hawaii."

This publication describes an assessment of whether Hawai'i farmers do indeed pay higher freight costs for agricultural shipments to the U.S. mainland than their foreign competitors.

Method and data

Matson Navigation Company, the largest shipping company in Hawai'i, handles most of Hawai'i's agricultural shipments to the U.S. mainland.(2) Matson publishes detailed freight rates, which can be used to measure Hawai'i's ocean freight costs. For air cargos, such as cut flowers, airlines in Hawai'i usually determine freight rates according to the nature of the cargos (perishables or non-perishables) or by using more specific Commodity Codes. Information about Hawai'i's air freight rates for agricultural shipments can be obtained directly from experts in the industry.

Data constraints make it difficult to implement this direct approach to foreign countries exporting to the U.S. For example, as foreign countries usually use several

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(1) USDA, 2003. Geographically disadvantaged farmers and ranchers: A case study of Hawaii. Part II of the report on geographically disadvantaged farmers and ranchers, prepared for submission to Congress by the U.S. Department of Agriculture, Agricultural Marketing Service, November 2003.

(2) Horizon Lines (as Sea-Land Services, Inc.) is the other major shipping company in Hawai'i. However, most of Horizon's vessels from the U.S. West Coast, after arriving Hawai'i, go on to serve other Pacific islands such as Guam and return directly to the West Coast without stopping in Hawai'i.

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shipping companies, we need to estimate their average freight rates. Such estimations require data on each company's freight rates as well as the amount of shipments they handle. Such data are difficult to obtain.

Instead, we use an indirect method to estimate foreign countries' freight costs by comparing the free-alongside-ship (FAS) value and cost-insurance-freight (CIF) value of their cargos.(3) The FAS value (also called the custom value) reflects the costs of obtaining merchandise and placing them alongside the vessel at the port of exportation, while the CIF value represents the landed value of the merchandise at the first port of arrival. Thus, the difference between the CIF value and the FAS value represents import charges, which include both freight costs and insurance. According to Yeats (1989), insurance is approximately equal to 10 percent of the total import charge. Thus, we use the following formula to estimate freight costs:

$$\textit{Freight costs} = (\textit{CIF value} - \textit{FAS value}) \times 0.90$$

Data on the FAS and CIF value of foreign imports are available from the U.S. Foreign Trade Statistics published by the U.S. Department of Commerce (DOC). Since Hawai'i's shipments to the U.S. mainland are counted as domestic trade, data on their FAS and CIF value are not available. Thus, this indirect approach cannot be applied to Hawai'i.

We use two measures of freight rates to gauge freight costs. One measure in terms of cargo quantity is freight costs per pound of cargo. However, cargos under the same shipping category could have different unit values because of their differences in quality or other aspects. Thus, we also use a second measure in terms of cargo value (i.e., freight costs per dollar of cargo's FAS value) to account for such differences.

While Matson's freight rates measure freight costs from Hawai'i to the U.S. West Coast, estimated foreign freight rates gauge freight costs from foreign countries to the first-entry ports, which usually include multiple cities and are not necessarily in the West Coast. For example, most of Costa Rica's pineapples are shipped first to Philadelphia or Miami before being transported to other destinations. We do not have disaggregated data to estimate foreign freight rates to each landing port. Due to the lack of data, we are also unable to account for transportation costs among U.S. cities. Thus, for each commodity under comparison, we would compare Hawai'i's freight rate to each foreign country's average freight rate for all the landing ports. To qualify the comparisons, we would note the proportions of each imported commodity (except cut flowers) landed in three West Coast cities (i.e., Los Angeles, San Diego, and San Francisco) to the total import of that commodity to the U.S. We are unable to calculate such proportions for cut flowers because of lack of data.

In this study, considering the latest available information at the time of this analysis, we estimated foreign freight costs for the year 2004. On the other hand, freight costs for Hawai'i are taken from Matson's online system retrieved in May 2006.

Results

For this exploratory analysis and comparison, eight major agricultural commodities from Hawai'i are covered: pineapples, papayas, bananas, coffee, macadamia nuts, and three types of cut flowers (anthuriums, dendrobiums, and "other orchids").

Pineapples

Hawai'i shipped more than 160 million pounds of fresh pineapples to the U.S. mainland in 2004, accounting for 13 percent of the entire market (Table 1). Foreign import of fresh pineapples mainly came from Latin American countries, including Costa Rica (67%), Honduras (5.9%), Ecuador (5.7%), Mexico (4.7%), Guatemala (3.0%) and Panama (0.3%). Thailand (0.7%) is the only geographic exception (Table 1).

Fresh pineapples were shipped to the U.S. mainland mainly by vessel, except for Mexico, which used mainly truck transportation.(4) Philadelphia (PA) was the main vessel port for fresh pineapples imports, receiving most of Costa Rica's shipments. Other major vessel ports for fresh pineapples imports include Miami, Los Angeles, and San Diego.

In terms of dollars per pound, Hawai'i's freight rate for fresh pineapples was nearly twice as high as the foreign average (Table 1). Hawai'i paid 4.5 cents for shipping

(3) This indirect approach was used by A. J. Yeats in "Do Caribbean exporters pay higher freight costs?" Policy, Planning and Research Working Papers (WPS 244), International Economics Department, World Bank, July 1989.

(4) In 2004, air shipments were 0.2 percent of the entire fresh pineapple supply in the U.S., which came mainly from South Africa and landed mainly in metropolitan districts such as Los Angeles, New York City, Chicago, Miami, and Houston.

one pound of its fresh pineapples to the U.S. mainland, which was higher than Mexico (1.0 cents per pound, 34% landed in the West Coast)[5], Costa Rica (2.2 cents per pound, 4.7% landed in the West Coast), Honduras (3.3 cents per pound, 0.3% landed in the West Coast), Guatemala (4.1 cents per pound, 24% landed in the West Coast), and Thailand (4.4 cents per pound, 15% landed in the West Coast), but lower than Ecuador (4.8 cents per pound, 58% landed in the West Coast) and Panama (5.6 cents per pound, zero per cent landed in the West Coast).

In terms of percentage of cargo value, Hawai'i's freight rate for fresh pineapples (15%) was slightly higher than the foreign average (13%) but lower than Ecuador (34%), Honduras (23%) and Guatemala (20%).

Hawai'i shipped nearly 70 million pounds of preserved (e.g., canned) pineapple to the U.S. mainland in 2004, accounting for 8.6 percent of the entire market (Table 1). Imported preserved pineapple mainly came from Asian countries such as the Philippines (38% of the mainland market), Thailand (30%), Indonesia (14%), China (7.4%), and Malaysia (2.3%). Preserved pineapples are shipped to the U.S. mainland mainly by vessel, landed mainly in metropolitan cities such as Los Angeles (CA), New York City (NY), San Francisco (CA), Seattle (WA), etc. In terms of dollars per pound, Hawai'i's freight cost for preserved pineapples was 3.7 cents per pound in 2004, lower than all the major foreign competitors (Table 1).

Papayas

Hawai'i shipped more than 12 million pounds of fresh papayas to the U.S. mainland in 2004, accounting for 4.1 percent of the entire market (Table 2). Imported fresh papayas came mainly from Mexico (72% of the mainland market), Belize (18%), Brazil (3.7%), Dominican Republic (0.9%), and Jamaica (0.8%).

In terms of dollars per pound, Hawai'i's freight cost for fresh papayas (6.7 cents per pound) was nearly three times as high as foreign shipments on average in 2004 (Table 2). This mainly reflects the much lower freight cost of Mexico (0.7 cents per pound; 64% landed in the West Coast), which transports papayas by truck to San Diego and Laredo.

The quantity of Brazil's papaya shipments to the U.S. mainland was similar to Hawai'i, but its freight cost (13.0 cents per pound, only 0.3% landed in the West Coast) was twice as high as Hawai'i. This is mainly because two thirds of Brazil's fresh papayas were shipped by air to the U.S. mainland, landed mainly in Miami and Savannah. Jamaica also paid high freight costs (10.0 cents per pound, 11% landed in the West Coast) for shipping papayas by air, but the cost in terms of percentage of cargo value was only 14%, lower than Hawai'i's 18% (Table 2).

Belize shipped papayas by vessel with a freight cost of 4.8 cents per pound (zero percent landed in the West Coast), which was slightly lower than Hawai'i. However, in terms of percentage of cargo value, Belize's papayas freight cost (23%) was higher than Hawai'i (Table 2).

Bananas

Hawai'i shipped 17 million pounds of bananas to the U.S. mainland in 2004, accounting for less than one percent of the entire market (Table 1). Imported bananas mainly came from Latin American countries such as Guatemala (26% of the mainland market), Ecuador (24%), Costa Rica (22%), Honduras (13%), and Nicaragua (12%). Bananas are shipped to the U.S. mainland mainly by vessel. Major vessel ports for imported bananas include Philadelphia, Los Angeles, Mobile, Houston, and San Diego.

In terms of dollars per pound, Hawai'i's freight rate for bananas (7.8 cents per pound) was higher than all the major foreign countries (Table 3). The average foreign freight rate was only 2.2 cents per pound (23% landed in the West Coast). However, in terms of percentage of cargo value, Hawai'i's bananas freight rate (16%) was lower than the foreign average (19%), and only Colombia (13%) and Mexico (12%) had lower banana freight rates than Hawai'i (Table 3).

Coffee

Hawai'i paid 3.5 cents for shipping one pound of green coffee in sack to the U.S. mainland, which is almost the same as the average foreign freight rate (Table 4). Mexico had the lowest freight rate for transporting green coffee to the U.S. mainland (2.5 cents per pound, 5.7% landed in the West Coast), while Indonesia's 5.1 cents per pound (45% landed in the West Coast) was the highest (Table 4).

In comparison, Hawai'i paid nearly 10.0 cents for shipping one pound of coffee products to the U.S. main-

(5) "West Coast" here refers to three cities: Los Angeles, San Diego, and San Francisco.

land,[6] which is higher than the foreign average at 6.5 cents (8.9% landed in the West Coast). Mexico had the lowest freight rate for transporting coffee products to the U.S. mainland (2.4 cents per pound; 0.6% landed in the West Coast), while Canada's 15.0 cents per pound (0.1% landed in the West Coast) was the highest (Table 4).

As there is a lack of data on coffee shipments from Hawai'i to the mainland, we were unable to calculate Hawai'i's freight rates for green coffee or coffee products in terms of percentage of cargo value. Table 4 shows such freight rates for only foreign countries.

Green coffee shipments to the U.S. mainland are transported mainly by vessel. The major vessel ports include New York City and New Orleans (mainly for green coffee from Colombia, Brazil, and Guatemala), Los Angeles (mainly for green coffee from Guatemala, Vietnam, Columbia and Indonesia), Houston (mainly for green coffee from Colombia and Brazil), Norfolk (mainly for green coffee from Guatemala, Colombia, Indonesia, Brazil and Vietnam), San Francisco (mainly for green coffee from Colombia and Indonesia), and Miami (mainly for green coffee from Colombia, Guatemala, Brazil, Vietnam, and Indonesia).

Coffee products are also shipped to the U.S. mainland mainly by vessel. The major vessel ports include Norfolk (mainly for coffee from Netherlands and Switzerland), Houston (mainly for coffee from Brazil), New York City (mainly for coffee from Colombia), New Orleans (mainly for coffee from Brazil), and San Francisco (mainly for coffee from Switzerland).

Macadamia nuts

Hawai'i shipped 12 million pounds of shelled macadamia nuts to the U.S. mainland in 2004, accounting for 38 percent of the entire market (Table 2). Imported shelled macadamia nuts came mainly from Australia (19.0% of the mainland market), South Africa (12.0%), Kenya (8.5%), Guatemala (6.5%), China (6.2%), Brazil (4.0%), Malawi (2.0%), and Vietnam (1.0%), landed mainly in Los Angeles, New York City, San Francisco, Houston, Norfolk, and Savannah.

In terms of dollars per pound, Hawai'i's freight rate for shipping shelled macadamia nuts to the U.S. mainland was 8.4 cents per pound, higher than most of foreign countries and the foreign average (7.2 cents per pound, 43% landed in the West Coast), but slightly lower than Australia's freight rate of 8.6 cents per pound (49% landed in the West Coast). Due to the high value of macadamia nuts, foreign countries' freight costs of shipping shelled macadamia nuts to the U.S. mainland were only one to two percent of cargo value (Table 5). We were unable to calculate the ratio for Hawai'i due to the lack of data.

Cut flowers

In 2004, Hawai'i shipped more than $6 million of cut anthuriums out of state, while the U.S. imported less than $400,000 of cut anthuriums, mainly from Canada and Trinidad and Tobago (Caribbean islands). Hawai'i's out-of-state sales of cut dendrobiums were $4 million, while the U.S. imports of cut dendrobiums was $3 million, mainly from Thailand. Hawai'i's out of state sales of other cut orchids (including only cymbidiums and oncidiums) was $640,000, while the U.S. imports of other cut orchids (excluding dendrobium) was $2.5 million, mainly from Netherlands, New Zealand, and Thailand (Table 6).

It cost Hawai'i farmers around 20 cents to ship one piece of cut flower to the West Coast.[7] The average foreign freight rate for anthuriums was only 6.3 cents per piece. The freight rate for anthuriums from Canada was less than one cent (Table 6). The average foreign freight rate for dendrobiums was 2.7 cents per piece, which mainly reflects the freight rate for Thai dendrobiums. The average foreign freight rate for other orchids was 22 cents per piece. It took nearly 70 cents to ship one piece of high-priced cut orchid (nearly $3 per piece) from New Zealand to the U.S. (Table 6).

Summary

As an island economy depending mainly on maritime transportation, Hawai'i tends to have transportation disadvantage compared to foreign competitors relying on truck transportation. The above results show that Hawai'i had higher freight costs than Mexico for pineapples, papayas, fresh bananas, and coffee, and it had higher freight costs than Canada in shipping cut anthuriums.

(6) The freight rate for coffee products published by Matson is $3,748 per 40-foot container. We calculated the unit freight rate by assuming that a 40-foot container can load 40,000 pounds of coffee products.

(7) The 20 cents of air freight rate is calculated based on the assumption that the tariff for cut flowers from Hawai'i to the West Coast mainland is $600 per LD2 container and each container holds 3,000 pieces.

As an economy with a small agricultural sector, Hawai'i also tends to have a transportation disadvantage compared to foreign competitors with larger market shares. The above results show that Hawai'i had higher freight costs than Costa Rica in fresh pineapples; Mexico in papayas; Guatemala, Ecuador, Costa Rica, Honduras, and Colombia in bananas; Mexico, Brazil, and Netherlands in coffee products; and Thailand in fresh cut dendrobiums.

However, as an island state branded as "paradise," Hawai'i tends to have a transportation advantage in terms of freight costs as percentage of cargo value, because of the high value of its products. In the results cited, there are cases where Hawai'i had a higher freight rate in terms of dollars per pound but a lower freight rate in terms of percentage of cargo value. Such examples include Hawai'i vs. Honduras in fresh pineapples, Hawai'i vs. Belize in papayas, and Hawai'i vs. Guatemala in bananas.

Evidence from this comparative empirical analysis indicates that Hawai'i agricultural commodities do not have across-the-board transportation disadvantages as is generally perceived.

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Table 1. Pineapples.

	Shipments		Freights	
Pineapple type	Quantity[1] (000 lbs)	Price[1] ($/lb)	$/lb[2]	% of cargo value[3]
Fresh pineapples[4]				
Costa Rica (4.7%)[5]	864,924	0.21	0.022	11%
Honduras (0.3%)	75,881	0.15	0.033	23%
Ecuador (58%)	74,094	0.14	0.048	34%
Mexico (34%)	59,598	0.21	0.010	5%
Guatemala (24%)	38,719	0.21	0.041	20%
Thailand (15%)	8,809	0.62	0.044	7%
Panama (0.0%)	3,884	0.38	0.056	14%
Foreign average (9.5%)	*n.a.*	*0.21*	0.026	13%
Hawai'i	*163,572*	*0.30*	*0.045*	*15%*
Prepared pineapples[6]				
Philippines (68%)	286,954	0.28	0.060	21%
Thailand (49%)	238,338	0.33	0.057	17%
Indonesia (35%)	113,174	0.27	0.054	21%
China (mainland, 63%)	58,299	0.24	0.045	19%
Malaysia (34%)	16,463	0.24	0.046	20%
Foreign average (34%)	*n.a.*	*0.29*	*0.056*	*20%*
Hawai'i	*68,018*	--	*0.037*	--

1 Based on 2004 data; cargo prices equal to cargo FAS value (or wholesale value for Hawai'i) divided by cargo quantity. Foreign countries' data obtained from the U.S. Foreign Trade Statistics (DOC); Hawai'i's data obtained from Fruit and Tree Nuts Situation and Outlook Year Book (USDA) and Statistics of Hawai'i Agriculture (HASS).
2 Hawai'i's freight rates obtained from Matsons online tariffs; foreign countries' freight rates calculated based on 2004 data from U.S. Foreign Trade Statistics (DOC).
3 Calculated based on the second and third columns.
4 Imported pineapples under the category of "pineapples" (HS080430).
5 Percentages represent the proportion of fresh pineapples landed in West Coast cities including Los Angeles, San Francisco and San Diego.
6 Imported pineapple products under the category of "pineapples, prepared" (HS200820).

Table 2. Papayas.

	Shipments		Freights	
Papayas (fresh)[4]	Quantity[1] (000 lbs)	Price[1] ($/lb)	$/lb[2]	% of cargo value[3]
Mexico (64%)[5]	211,623	0.34	0.007	3%
Belize (0.0%)	54,398	0.21	0.048	23%
Brazil (0.3%)	10,902	0.34	0.134	39%
Dominican Republic (0.0%)	2,697	0.13	0.059	44%
Jamaica (11%)	2,238	0.75	0.101	14%
Foreign average (51%)	*n.a.*	*0.31*	*0.021*	*6%*
Hawai'i	*12,100*	*0.36*	*0.067*	*18%*

1 Based on 2004 data; cargo prices equal to cargo FAS value (or wholesale value for Hawai'i) divided by cargo quantity. Foreign countries' data obtained from the U.S. Foreign Trade Statistics (DOC); Hawai'i's data obtained from Fruit and Tree Nuts Situation and Outlook Year Book (USDA) and Statistics of Hawai'i Agriculture (HASS).
2 Hawai'i freight rates obtained from Matsons online tariffs; foreign countries' freight rates calculated based on 2004 data (except for Jamaica's freight rates calculated base on 2005 data) obtained from U.S. Foreign Trade Statistics (DOC).
3 Calculated based on the second and third columns.
4 Imported papayas under the category of "papayas, fresh" (HS0807200000).
5 Percentages represent the proportion of fresh papayas landed in West Coast cities including Los Angeles, San Francisco and San Diego.

Table 3. Bananas.

	Shipments		Freights	
Bananas[4]	Quantity[1] (000 lbs)	Price[1] ($/lb)	$/lb[2]	% of cargo value[3]
Guatemala (22%)[5]	2,292,869	0.11	0.022	20%
Ecuador (70%)	2,064,116	0.11	0.024	22%
Costa Rica (1.4%)	1,943,655	0.12	0.020	16%
Honduras (0.1%)	1,140,890	0.11	0.029	25%
Colombia (0.0%)	1,043,580	0.12	0.014	13%
Nicaragua (0.0%)	93,223	0.11	0.030	26%
Mexico (58%)	75,441	0.15	0.018	12%
Peru (25%)	27,817	0.16	0.033	21%
Dominican Republic (10%)	11,681	0.21	0.036	17%
Foreign Average (23%)	*n.a.*	*0.12*	*0.022*	*19%*
Hawai'i	*16,500*	*0.49*	*0.078*	*16%*

1 Based on 2004 data; cargo prices equal to cargo FAS value (or wholesale value for Hawai'i) divided by cargo quantity. Foreign countries' data obtained from the U.S. Foreign Trade Statistics (DOC); Hawai'i's data obtained from Fruit and Tree Nuts Situation and Outlook Year Book (USDA) and Statistics of Hawai'i Agriculture (HASS).
2 Hawai'i's freight rates obtained from Matsons online tariffs; foreign countries' freight rates calculated based on 2004 data obtained from U.S. Foreign Trade Statistics (DOC).
3 Calculated based on the second and third columns.
4 Imported bananas under the category of "bananas, fresh" (HS0803002020).
5 Percentages represent the proportion of fresh bananas (including plantains) landed in West Coast cities including Los Angeles, San Francisco and San Diego.

Table 4. Coffee.

Coffee type	Shipments: Quantity[1] (000 lbs)	Shipments: Price[1] ($/lb)	Freights: $/lb[2]	Freights: % of cargo value[3]
Coffee (green)[4]				
Brazil (0.9%)[5]	565,742	0.55	0.035	6%
Colombia (19%)	452,440	0.77	0.030	4%
Vietnam (38%)	373,539	0.29	0.041	14%
Indonesia (45%)	211,569	0.57	0.051	9%
Guatemala (33%)	202,534	0.94	0.032	4%
Mexico (5.7%)	135,889	0.74	0.025	4%
Costa Rica (48%)	115,252	1.11	0.033	3%
Peru (15%)	103,260	0.70	0.035	5%
Uganda (19%)	15,579	0.34	0.041	12%
Germany (18%)	2,171	0.77	0.031	4%
Foreign average (23%)	*n.a.*	*0.65*	*0.036*	*5%*
Hawai'i	--	--	*0.035*	--
Coffee (products)[6]				
Mexico (0.6%)	27,859	1.26	0.024	2%
Brazil (1.4%)	25,314	1.25	0.054	5%
Netherlands (19%)	14,212	3.38	0.086	3%
Canada (0.1%)	7,082	3.29	0.151	5%
Colombia (11%)	5,251	2.63	0.055	2%
Switzerland (14%)	3,465	8.86	0.140	2%
Germany (1.7%)	1,283	3.30	0.132	4%
Vietnam (85%)	560	1.08	0.076	7%
Foreign average (8.9%)	*n.a.*	*2.2*	*0.065*	*3%*
Hawai'i (others)	--	--	*0.094*	--

1Based on 2004 data; cargo prices equal to cargo FAS value (or wholesale value for Hawai'i) divided by cargo quantity. Foreign countries' data obtained from the U.S. Foreign Trade Statistics (DOC). 2 Hawai'i's freight rates obtained from Matsons online tariffs; foreign countries' freight rates calculated based on 2004 data obtained from U.S. Foreign Trade Statistics (DOC). 3 Calculated based on the second and third columns. 4 Imported coffee under the category of "Coffee Not Roasted" (HS090111). 5 Percentages represent the proportion of green coffee or coffee products landed in West Coast cities including Los Angeles, San Francisco and San Diego. 6 Imported coffee under the category of "Coffee Extracts" (HS210111)

Table 5. Macadamia nuts.

Macadamia nuts (shelled)[4]	Shipments: Quantity[1] (000 lbs)	Shipments: Price[1] ($/lb)	Freights: $/lb[2]	Freights: % of cargo value[3]
Australia (49%)[5]	5,835	4.74	0.086	2%
South Africa (25%)	3,717	4.94	0.068	2%
Kenya (37%)	2,552	4.63	0.061	1%
Guatemala (51%)	1,940	4.68	0.077	2%
China (87%)	1,856	5.44	0.054	1%
Brazil (7.5%)	1,217	4.37	0.067	2%
Malawi (0.0%)	636	4.93	0.055	1%
Vietnam (39%)	416	5.74	0.073	1%
Costa Rica (65%)	241	4.30	0.085	2%
Foreign average (43%)	*n.a.*	*4.83*	*0.072*	*2%*
Hawai'i	*11,524*	--	*0.084*	--

1 Based on 2004 data; cargo prices equal to cargo FAS value (or wholesale value for Hawai'i) divided by cargo quantity. Foreign countries' data obtained from the U.S. Foreign Trade Statistics (DOC); Hawai'i's data obtained from Fruit and Tree Nuts Situation and Outlook Year Book (USDA) and Statistics of Hawai'i Agriculture (HASS). 2 Hawai'i's freight rates obtained from Matsons online tariffs; foreign countries' freight rates calculated based on 2004 data obtained from U.S. Foreign Trade Statistics (DOC). 3 Calculated based on the second and third columns. 4 Imported under the category of "macadamia nut, shelled" (HS0802909810). 5 Percentages represent the proportion of shelled macadamia nuts landed in West Coast cities including Los Angeles, San Francisco and San Diego.

Table 6. Cut flowers.

Cut flowers	Shipments: Value[1] (000 dollars)	Shipments: Price[1] ($/piece)	Freights: $/piece[2]	Freights: % of cargo value[3]
Anthuriums[4]				
Canada	235	1.38	0.007	1%
Trinidad and Tobago	84	0.51	0.035	7%
Dominican Republic	18	0.63	0.145	23%
Costa Rica	13	0.29	0.081	28%
Mauritius	7	0.39	0.060	15%
Foreign average	*--*	*0.82*	*0.063*	*8%*
Hawai'i	*6,475*	*--*	*0.200*	*--*
Dendrobiums[5]				
Thailand	2,418	0.04	0.027	61%
Colombia	200	0.32	0.046	14%
Panama	33	0.38	0.050	14%
Costa Rica	29	0.36	0.081	23%
Israel	5	0.18	0.079	44%
Foreign average	*--*	*0.05*	*0.027*	*57%*
Hawai'i	*3,900*	*--*	*0.200*	*--*
Orchids[6]				
Netherlands	1,090	0.66	0.189	29%
New Zealand	835	2.9	0.690	23%
Thailand	333	0.31	0.163	53%
Singapore	186	0.57	0.109	19%
Malaysia	118	0.37	0.119	32%
Foreign	*--*	*0.75*	*0.222*	*30%*
Hawai'i	*640*	*--*	*0.200*	*--*

1 Based on 2004 data. Foreign countries' data obtained from the U.S. Foreign Trade Statistics (DOC); Hawai'i's data obtained from Floriculture and Nursery Crops Situation and Outlook Yearbook (USDA) and Statistics of Hawai'i Agriculture (HASS).
2 Hawai'i's freight rates obtained from expert opinions; foreign countries' freight rates calculated based on 2004 data obtained from U.S. Foreign Trade Statistics (DOC).
3 Calculated based on the second and third columns.
4 Imported under the category of "anthuriums, fresh" (HS0603107040).
5 Imported under the category of "dendrobium orchids, fresh" (HS0603107050).
6 Imported under the category of "orchid excluding dendrobiums, fresh" (HS0603107060). Including only cymbidiums and onbidiums for Hawai'i.